

REMARKS

Applicants have received and carefully reviewed the Office Action mailed July 18, 2006, wherein claims 1-25 remain pending in the application. With this response, claims 22, 23, and 25 have been canceled and claims 1, 17, and 24 have been amended. Support for the amendments is found in the specification, claims, and drawings as originally filed. No new matter has been added. Reconsideration and allowance of the pending claims are respectfully requested.

Rejections under 35 U.S.C. § 102(b)

Claims 1-7, 12-15, 17-19, and 25 are rejected as being anticipated by Samson et al. (US 6,186,978). The Examiner asserts that Samson et al. teach a catheter comprising an elongated shaft 232, a working lumen, an inflatable balloon 312, and an external inflation component 302, citing Figures 1-7 for support. Applicants respectfully traverse the rejection. Independent claim 1, as amended, recites, in part:

wherein the external inflation component is disposed longitudinally along the outer surface of the elongate shaft such that the outer surface of the inflation component is disposed adjacent the outer surface of the elongate shaft.

Emphasis added. As shown in FIGS. 3-7, Samson et al. teach an outer tube 230 disposed around an inner tube 232 such that the two tubes are coaxial, forming an annular space 244 therebetween for flow of inflation fluid. See column 7, lines 50-58. Samson et al. teach outer tube 230 having exterior covering 234 and inner tube 232 having outer tube covering 240. See column 7, lines 41-47 and FIGS. 3-5. Applicants submit that Samson et al. do not teach a catheter in which an outer surface of an inflation component is disposed adjacent the outer surface of an elongate shaft, as is recited in independent claim 1, as amended.

Additionally, there is no motivation for one of ordinary skill in the art to modify the device of Samson et al. to achieve the device of independent claim 1 because Samson et al. teach "the concentric lumen design has been shown to provide for quick inflation/deflation response." See column 8, lines 46-47.

Claim 17, as amended, recites, in part:

wherein one of a thickness of the sleeve or a diameter of the working lumen tapers toward the distal end while the other remains constant throughout a length of the shaft, resulting in a catheter with a tapered distal region.

Emphasis added. Applicants submit that Samson et al. do not teach or suggest such a catheter. Samson et al. thus do not teach or suggest each and every element of independent claims 1 or 17, or the claims dependent thereon. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejections under 35 U.S.C. § 103(a)

Claims 8, 10, 11, and 24 are rejected as being unpatentable over Samson et al. in view of Killion et al. (US 5,921,957). For at least the reasons set forth above, Samson et al. do not teach or suggest the basic elements of independent claim 1, from which claims 8, 10, and 11 depend. Killion et al. do not provide what Samson et al. lacks. Killion et al. teach a shaft 11 having a lumen that is separated by membranes 30 and 31 into three separate regions. See column 5, lines 17-37. Killion et al. do not teach a catheter having an external inflation component disposed longitudinally along the outer surface of the elongate shaft such that the outer surface of the inflation component is disposed adjacent the outer surface of the elongate shaft, as is recited in independent claim 1, as amended. Thus, any combination of Samson et al. and Killion et al. also fails to teach or suggest the elements of claims 8, 10, and 11.

Independent claim 24, as amended, recites, in part:

wherein a distal end of the balloon is attached to the outer surface of the shaft and a proximal end of the balloon is attached to both the outer surface of the shaft and a distal end of the external inflation component, wherein the inflation lumen is in fluid communication with an interior of the balloon.

Emphasis added. Neither Samson et al. nor Killion et al. teach such a device. Samson et al. teach a catheter in which an inflation balloon is attached at its proximal end to the outer tube 230 and at its distal end to the outer tube 230 (FIG. 6) or inner tube (FIG. 7). Samson et al. do not teach a catheter in which a proximal end of the balloon is attached to both the outer surface of the shaft and a distal end of an external inflation component, as is recited in claim 24. Killion et al. do not provide what Samson et al. lacks. Neither Samson et al. nor Killion et al. teach the elements of independent claim 24. Additionally, there is no motivation for one of ordinary skill in the art to modify the device of Samson et al. to achieve the claimed catheter. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 9 is rejected as being unpatentable over Samson et al. in view of Pfenninger (US 5,306,247). Claim 16 is rejected as being unpatentable over Samson et al. in view of Adams et al. (US 5,527,292). Claims 20 and 21 are rejected as being unpatentable over Samson et al. Samson et al. do not teach or suggest the elements of independent claim 1, from which claims 9, 16, 20, and 21 depend. Neither Pfenninger nor Adams et al. provide what Samson et al. lack. Thus, any combination of Samson et al., Pfenninger, or Adams et al. also fails to teach or suggest the elements of claims 9, 16, 20, and 21. Reconsideration and withdrawal of the rejections are respectfully requested.

Claims 22 and 23 are rejected as being unpatentable over Samson et al. in view of Eidenschink (US 6,517,515). Claims 22 and 23 have been canceled, rendering the rejection moot. Elements similar to claims 22 and 23 have been added to claim 17, thus the Eidenschink reference will be addressed briefly. The Examiner asserts that Eidenschink teaches a sleeve distal end that is tapered and a distal lumen end that is tapered, pointing to FIG. 3 for support. Applicants submit that FIG. 3 of Eidenschink shows the adhesive 43 used to bond balloon distal end 40 to distal tip 80, as also shown in FIG. 2.

Reexamination and reconsideration are respectfully requested. It is respectfully submitted that all pending claims are now in condition for allowance. Issuance of a Notice of Allowance in due course is requested. If a telephone conference might be of assistance, please contact the undersigned attorney at (612) 677-9050.

Respectfully submitted,

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By their Attorney,

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